C048130

Quanterra
Environmental Services

CERTIFICATE OF ANALYSIS

Westinghouse Hanford Company
P.O. Box 1970
Richland, Washington 99352

September 2, 1994

Attention: J. A. Lerch

Project number	:	550.04
Date Received by Lab	:	July 27, 1994
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W0151
Data Deliverable	:	Summary

I. Introduction

On July 27, 1994, one (1) water sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. Upon receipt, the sample was given the following laboratory ID number to correspond with the specific client ID:

St Louis ID	WHC ID	Richland ID	Matrix	Date of Receipt
5682-001	BO9TD7	40750301	Water	07/27/94

II. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: Cyanide by EPA method 9010.

III. Quality Control

A Laboratory Control Sample and Method Blank were analyzed with each preparation batch. A Matrix Spike and Duplicate analysis was performed per the protocol for this analyte.

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBLK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike

V. Comments

The temperature of the sample cooler, upon receipt, was 1° C which is below the recommended temperature of 4° ± 2° C.

There was insufficient sample volume (1 L) for this analysis and QC to be run at full volume (500 ml). Therefore, the Sample was run at full volume while the Duplicate and Matrix Spike were analyzed using half the volume (250 ml). However, since the sample values are high, the increased detection limit does not affect the analytical results.

I certify that this Certificate of Analysis is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Wade H. Price
Project Manager
z:\annelars\hanw0151.nar

OFFICE OF SAMPLE MANAGEMENT

RECORD OF DISPOSITION

ROD-B94-012
Record of Disposition No.

DATE: 08/05/94

LABORATORY: Quanterra

PROJECT TITLE/NO.: 200-BP-5 (Charact. to Support Pump and Treat)/B94-008

NCR NO.: N/A

SAMPLE IDENTIFICATION NUMBERS:

B09TD7, B09TD8, B09TD9

DESCRIPTION OF EVENT:

Sample volumes submitted are insufficient to run contractually required QC (duplicates and matrix spikes).

DISPOSITION OF SAMPLES:

Analyze reduced sample volumes as outlined on attached issue resolution form. Detection limits will be increased proportionally for the reduced analyzed volumes.

APPROVAL SIGNATURES:

R. C. Smith/ RC Smith — 8/5/94
OSM Project Coordinator (Print/Sign Name) — Date

D. B. Erb/ David B. Erb — 8/8/94
Technical Representative (Print/Sign Name) — Date

N/A
Quality Assurance (Print/Sign Name) — Date

ORIGINAL → RICHLAND

CC: VAN WADE
JIM TAMI
SUZI

000003A
~~000003B~~

Quanterra July 28, 1994 05:04 pm

Account: 10722 Project: 550.04 Quanterra-Richland QAS No. 661 Rev. 0

Master Sample Login: 5682

Project Manager: W. Price

Draft: Final: Entered and Reviewed by: PM Review:

Sample Header Template:

Sample No. / Client ID / C-Matrix / Date: Collected / Received / Due / Shipper / Rad Category / Rad Sample No. / Comments	#	Container Type	Analysis	Class	Preservative	Anal. Due Date	Hold Date	Site	(Container Numbers:% Filled)	Date:
5682-001 B09TD7 Water 26-JUL-94 11:27 27-JUL-94 11:00 10-AUG-94 FED-EX 1 Screening not Required QUANTERRA RICHLAND I.D. 40750301.	1	PN - Plastic-1L	CN/9010/Q4	S	NAOH	08-AUG-94	09-AUG-94	SID	(88946:100)	
5682-001DUP B09TD7 Water 26-JUL-94 11:27 27-JUL-94 11:00 10-AUG-94 FED-EX 1 Screening not Required QUANTERRA RICHLAND I.D. 40750301.	1	PN - Plastic-1L	CN/9010/Q4	S	NAOH	08-AUG-94	09-AUG-94	SID	(88946:100)	
5682-001MS B09TD7 Water 26-JUL-94 11:27 27-JUL-94 11:00 10-AUG-94 FED-EX 1 Screening not Required QUANTERRA RICHLAND I.D. 40750301.	1	PN - Plastic-1L	CN/9010/Q4	S	NAOH	08-AUG-94	09-AUG-94	SID	(88946:100)	

F00000

3*=Sample has not been rad screened.

Temp 1°C CUR 668

IT INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD*

Reference Document No. 481746
Page 1 of ___

Project Name/No. 1 SAF 694-008
Sample Team Members 2
Profit Center No. 3 4632
Project Manager 4 Van Petty
Purchase Order No. 6
Required Report Date 11 8-11-94

Samples Shipment Date 7 7-27-94
Lab Destination 8 St. Louis
Lab Contact 9
Project Contact/Phone 12
Carrier/Waybill No. 13

Bill to: 5 Quanterra Richland
Report to: 10 Quanterra Richland

White: To accompany samples
Yellow: Field copy

ONE CONTAINER PER LINE

Sample Number 14	Sample Description/Type 15	Date/Time Collected 16	Container Type 17	Sample Volume 18	Pre-servative 19	Requested Testing Program 20	Condition on Receipt 21	Disposal Record No. 22
40750301A	B09TD7/ H_2O	7-26-94 1127	P	1000ml	Cool 4°C NaOH	Cyanide	3F 100 pH-9	

FOR LAB USE ONLY

RB 7-27-94

FOR LAB USE ONLY

Special Instructions: 23 Priority

Possible Hazard Identification: 24
Non-hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☒

Sample Disposal: 25
Return to Client ☒ Disposal by Lab ☐ Archive ______ (mos.)

Turnaround Time Required: 26
Normal ☐ Rush ☐ As Per WRK Contract

QC Level: 27
I. ☐ II. ☐ III. ☐ Project Specific (specify): SDG W0151

1. Relinquished by 28 (Signature/Affiliation) R. Boyd	Date: 7-27-94 Time: 1600	1. Received by 28 (Signature/Affiliation) Jeffrey J. Daniels Quanterra - St. Louis	Date: 28 Jul 1994 Time: 09:00
2. Relinquished by (Signature/Affiliation)	Date: Time:	2. Received by (Signature/Affiliation)	Date: Time:
3. Relinquished by (Signature/Affiliation)	Date: Time:	3. Received by (Signature/Affiliation)	Date: Time:

Comments: 29

*See back of form for special instructions.

INTERNATIONAL TECHNOLOGY CORPORATION

C.U.R. and C.O.C.
COPIED TO: V. Price
DATE: 28 July 1994
TIME: 10:50
BY: J. Danielson

Work Order No.: 5682

Condition Upon Receipt Variance Report
ITAS - St. Louis Laboratory

Client: QUANTERRA - RICHLAND
Date: 28 July 1994
Project No: 550.04
Initiated by: Jeff Danielson
Analysis Requested: Refer to RFA/COC
RFA/COC Numbers: 481746
Client Sample Numbers Affected: Entire Login

Condition/Variance (Check all that apply): Circle Number to Denote that Item was Evaluated. "NA" = "Not Applicable".

1.	NA	Not enough sample received for proper analysis. Received approximately: _____	(8.)	☐	Custody tape disturbed/broken/missing.
			9.	NA	Sample splits performed by lab.
(2.)	☐	Sample received broken/leaking.	10.	NA	Volatile sample received with approximately _____ mm headspace.
3.	☒	Sample received without proper preservative.			
	☒	Cooler temperature not within 4°C ± 2°C. Record temperature: 1°C	(11.)	☐	Sample ID on container does not match sample ID on paperwork. Explain:
	☒	pH pH-9			
	☐	other: _____			
(4.)	☐	Sample received in improper container.	(12.)	☐	All coolers on airbill not received with shipment.
(5.)	☐	Sample received without proper paperwork. Explain:	(13.)	☐	Other (explain below): Shipping containers not rad surveyed.
(6.)	☐	Paperwork received without sample.			
(7.)	☐	No sample ID on sample container.			

Notes:

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____

☐ Client's Name: _____ Informed in writing on: _____ By: _____

☐ Sample(s) processed "as is". Comments: _____

☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Jeffrey J. Danielson Date: 28 July 1994

Project Management Review: _____ Date: _____

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

000006

668

[11] From: Robert C (Clay) Smith at ~WHC321 7/21/94 9:23AM (510 bytes: 4 ln)
To: Loren E Rogers at ~WHC279, Wendy S Thompson at ~WHC279
cc: Jeffrey A Lerch
Subject: DSI to release samples without 222-S activity report

---------- Message Contents ----------

The DSI from S.K. De Mers concerning water samples taken in support of 200-BP-5 pump and treat from well 699-50-53A has been forwarded to IT. The DSI will work in lieu of total activity reports from 222-S.

From: S. K. De Mers
Date: July 15, 1994
Phone: 376-3707 (X0-19)
Subj: Water samples taken in support of 200 BP-5

To: Wendy S. Thompson (N3-05)

cc: M. A. Wesselman (N3-05)
T. L. Lafreniere (T3-11)
M. R. Rushman (T3-11)
K. A. Smith (N1-06)
T. M. Brun (N1-06)

In support of the 200 BP-5 Operable Unit Pump and Treat, several temporary groundwater sampling wells will be installed to obtain water samples.

The purpose of the well installation and sampling is locate the radiological and chemical contaminants that existed in well 699-50-53A. The ground water plume that exists below this well has moved because of lowering water levels in the unconfined aquifer.

Water samples may be shipped as non-radioactive from these wells provided that field instruments detect no activity above the Minimum Detectable for the instrument being used.

No additional laboratory analysis is required to support this as this well and several surrounding and upgradient wells have been heavily sampled in the past and all samples taken since the water levels starting dropping in these wells (circa 1990) has shown the activity present to be less than 200 pC/gm.

Department of Transportation regulations allow for shipment of such samples as non-radioactive provided the activity is less than 2,000 pC/gm. 200 pC/gm in a water sample equates to 200,000 Pc/L.

The contaminants of concern for well 699-50-53A are listed below with their highest activity measured since 1990.

Co^{60}	475 pC/L
Gross Alpha	9 pC/L
Gross Beta	3130 pC/L
K^{40}	160 pC/L
Ru^{106}	31 pC/L
Tc^{99}	19,000 pC/L
Tritium	3950 pC/L
No^{95}	20 pC/L

Wells in the vicinity of 699-50-53A do not show any activity as high. Upgradient well also show activity less than 200 pC/gm (200,000 pC/L).

INTERNATIONAL TECHNOLOGY CORPORATION

CERTIFICATE OF ANALYSIS

Bechtel Hanford, Inc.
345 Hills
Richland, WA 99352

August 30, 1994

Attention: Joan Kessner

SAF Number	:	B94-008
Date SDG Closed	:	July 27, 1994
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W0151
Data Deliverable	:	Summary

I. Introduction

On July 27, 1994, one (1) water sample was received by the Quanterra Environmental Services Richland Laboratory (QTESRL) for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Bechtel Hanford Inc. (BHI) specific ID:

QTESRL ID	BHI ID	Matrix	Date of Receipt
40750401	B09TD7	Water	07/27/94

II. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gamma Spectroscopy
Gamma Scan by method ITAS-RD-3219
Liquid Scintillation Counting
Technetium-99 by method ITAS-IT-RS-0001

III. Quality Control

The analytical results for each analysis performed under SDG W0151 include a minimum of one Laboratory Control Sample (LCS), one method (reagent) blank, and one duplicate. Any exceptions have been noted in the "Comments" section.

Quality control sample results are reported in the same units as sample results.

IV. Comments

Results from the initial radioactivity screening of this sample classified it as Category I.

Gamma Spectroscopy

Gamma Scan by method ITAS-RD-3219
The LCS is within contractual limits. The batch blank, sample and sample duplicate (duplicate of sample B09TD7) MDA results are less than the RDL for some isotopes. However, on others the RDL is slightly higher due to insufficient sample volume for routine analysis. The sample and sample duplicate are within the three sigma control limit for all isotopes.

Liquid Scintillation Counting

Technetium-99 by method ITAS-IT-RS-0001
The LCS, batch blank, sample and sample duplicate (duplicate of sample B09TD7) results are within contractual limits. The matrix spike recovery is biased high. However, the data is accepted since the expected value is within three sigma of the matrix spike result.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Suzanne Gaines
Project Manager

Quanterra
Environmental Services

SAMPLE RESULTS

LAB NAME:	ITAS-RICHLAND	**SDG:**	W0151
LAB SAMPLE ID:	40750401	**MATRIX:**	WATER
CLIENT ID:	B09TD7	**DATE RECEIVED:**	7/27/94

ISOTOPE	RESULT	COUNTING ERROR (2s)	TOTAL ERROR (2s)	MDA	REPORT UNIT	YIELD	METHOD NUMBER
CO-58	6.41E+00	1.12E+01	1.12E+01	2.19E+01	pCi/L	N/A	RD3219
CO-60	2.01E+01	1.32E+01	1.34E+01	3.02E+01	pCi/L	N/A	RD3219
CS-137DA	-7.19E+00	9.75E+00	9.78E+00	1.56E+01	pCi/L	N/A	RD3219
EU-152	1.18E+01	1.80E+01	1.80E+01	3.55E+01	pCi/L	N/A	RD3219
EU-154	-3.20E+00	2.31E+01	2.31E+01	4.57E+01	pCi/L	N/A	RD3219
EU-155	1.20E+01	1.59E+01	1.59E+01	3.11E+01	pCi/L	N/A	RD3219
FE-59	1.11E+01	1.94E+01	1.95E+01	3.93E+01	pCi/L	N/A	RD3219
K-40	2.58E+02	2.16E+02	2.18E+02	N/A	pCi/L	N/A	RD3219
TC-99	4.80E+02	5.41E+00	5.70E+01	3.54E+00	pCi/L	95.10%	ITAS-IT-RS-0001

Number of Results: 9

Bechtel Hanford Company
P.O. Box 1970
Richland, WA 99352

Project: 550.04

Category: Cyanide
Method: EPA 9010
Matrix: Water

Sample Date : 07/26/94
Receipt Date : 07/27/94
Report Date : 08/09/94

Client ID	Quanterra ID	Analyte	CAS Number	Blank Sample Name	Prep. Date	Analyses Date	Result	Unit	Qual.	Detection Limit	D
B09TD7	5682-001	Cyanide	57-12-5	QCBLK42118-1	07/29/94	08/03/94	39.4	UG/L		5.0	
B09TD7	5682-001DUP	Cyanide	57-12-5	QCBLK42118-1	07/29/94	08/03/94	36.9	UG/L		5.0	
B09TD7	5682-001MS	Cyanide	57-12-5	QCBLK42118-1	07/29/94	08/03/94	90	%REC			
NA	QCBLK42118-1	Cyanide	57-12-5	QCBLK42118-1	07/29/94	08/03/94	5.0	UG/L	U	5.0	
NA	QCLCS42118-1	Cyanide	57-12-5	QCBLK42118-1	07/29/94	08/03/94	92	%REC			

INTERNATIONAL TECHNOLOGY CORPORATION

LOG #: RD-84-_____ page 1 of 2

ITAS-Richland
LABORATORY NONCONFORMANCE MEMO (NCM)

0727

PROJECT ID (Name/Number): WHC

NCM INITIATED BY (Name/Date): SR 5/11/94

PARAMETER(S): TC99

SAMPLE NUMBER(S) AFFECTED: W0750401

MATRIX: W015

AREA: ☐ SHIP/REC ☒ RADIOCHEM ☐ COUNTING ☐ BIOASSAY ☐ DATA VERIF ☐ REPORTING ☐ OTHER:

NONCONFORMANCE [check appropriate item(s)]:

1. ☐ Not enough sample received for proper analysis.

2. ☐ Holding time exceeded by _____ days due to:

2.1 ☐ CATEGORY I: Out of Laboratory Control
- ☐ Holding time expired at receipt.

2.2 ☐ CATEGORY II: Laboratory Dependent
- ☐ work backlog ☐ instrument failure
- ☐ communication ☐ other (see #10)

2.3 ☐ CATEGORY III: Laboratory Reruns

2.3.1. ☐ *QA/QC:*
- ☐ surrogates ☐ internal standards
- ☐ spike recoveries ☐ blank contamination

2.3.2. ☐ *CONFIRMATION:*
- ☐ second column ☐ contamination check
- ☐ other (see #10)

2.3.3. ☐ *DILUTION:*
- ☐ over calibration ☐ under calibration
- ☐ other (see #10)

2.3.4. ☐ *OTHER: (see #10)*

3. ☐ Sample lost during extraction/analysis; no re-prep or re-analysis possible.

4. ☐ QC data reported to client outside of:
- ☐ method limits ☐ internal limits
- ☐ QAPP limits ☐ contract limits
- ☐ regulatory limits ☐ blank criteria

5. ☐ Incorrect procedure(s) used. (See #10)

6. ☐ Invalid instrument calibration. (See #10)

7. ☐ Incorrect/incomplete data reported to client. (See #10)

8. ☐ Reported detection limit(s) higher than:
- ☐ method limits ☐ QAPP limits
- ☐ contract limits ☐ other (see #10)

Due to:
- ☐ sample matrix ☐ insufficient sample
- ☐ instrumentation ☐ other (see #10)

9. ☒ **Other (specify):** High matrix spike

10. ☐ **Comments/Explanation:**

NOTIFICATION [check appropriate item(s)]:

1. ☐ Client notified by (name and date): _____
- ☐ in writing ☐ by FAX
- ☐ by phone ☐ Other (explain)

2. ☐ Client's name _____ and response:
- ☐ process "as is" ☐ resample
- ☐ on hold til ____ ☐ Other (explain)

PROJECT MANAGER (signature & date): L. Scott 5/11/94

FURTHER ACTION REQUIRED, SEE PAGE 2 OF 2

0727

IT CORPORATION

LOG #: RD-94-_____ page 2 of 2

CORRECTIVE ACTION

☒ ROOT CAUSE: INITIALS/DATE [illegible] 4/11/94

combined uncertainties of spike and sample

~~spike~~ 4/11/94

$(712 \pm 41) - (479 \pm 28)$

☒ CORRECTIVE ACTION: INITIALS/DATE [illegible] 4/4/94

Report

☐ RESPONSIBILITY FOR PERFORMING CORRECTIVE ACTION ASSIGNED TO:

☐ ACTIONS TO PREVENT RECURRENCE: INITIALS/DATE _____

FIRST LEVEL SUPERVISOR: [signature] DATE: 8/11/94

RESPONSIBLE MANAGER: [signature] DATE: 8/15/94

QC REVIEW

☐ NONCONFORMANCE ☒ DEFICIENCY ☐ RERUN

☐ FURTHER ACTION REQUIRED.

ASSIGNED TO

QC COORDINATOR: [signature] DATE: 8/17/94

CORRECTIVE ACTION VERIFICATION

☒ VERIFIED ☐ CANNOT VERIFY (specify reason)

REASON:

NCM CLOSURE

QC COORDINATOR: [signature] DATE: 8/17/94

SIGNED ORIGINAL MUST BE RETAINED IN FILE: ☐ QUALITY/OPERATIONS FILE ☒ PROJECT FILE

Westinghouse Hanford Company

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

Data Turnaround: [X] Priorty [ ] Normal

Collector: L.E. ROGERS	Company Contact: L.E. ROGERS	Telephone No.: 376-7690
Project Designation: 200-BP-5 (CHARACTER TO SUPPORT PUMP & TREAT)	Sampling Location: 200-BP-5	SAF No.: B94-008
Ice Chest No.: GWS141	Field Logbook No.: EFL-1143	Method of Shipment: GOVERNMENT VEHICLE
Shipped To: QUANTERRA	Offsite Property No.: W94-0-0746-35	Bill of Lading/Air Bill No.: NA

Possible Sample Hazards/Remarks: None noted

Special Handling and/or Storage: COOL TO 4C

Preservative	NaOH	HCl		none
Type of Container	P	P/G		G
No. of Container(s)	1	2		1
Volume	1000ml	1000ml		40 ml
SAMPLE ANALYSIS 407503	Cyanide A	Co-60 Tc-99 407504(?)		Activity scan

	Sample No.	Matrix*	Date Sampled	Time Sampled	Cyanide	Co-60 Tc-99		Activity scan
01	B09TD7	W	7-26-94	1127	X	X		X
		W						
		W						
		W						
		W						
		W						

0018

CHAIN OF POSSESSION	Date/Time	Sign/Print Names	Date/Time
Relinquished By: Loren Rogers	7-26-94 1400	Received By: CH2M HILL A. Simpson	7/26/94 1400
Relinquished By: CH2M HILL A. Simpson	7/27/94 1100	Received By: R. Boyd Quanterra	7/27/94 1100
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

SPECIAL INSTRUCTIONS

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By	Title	Date/Time
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

DISTRIBUTION: Original - Sample Yellow - Sampler

From: S. K. De Mers
Date: July 15, 1994
Phone: 376-3707 (X0-19)
Subj: Water samples taken in support of 200 BP-5

To: Wendy S. Thompson (N3-05)

cc: M. A. Wesselman (N3-05)
T. L. Lafreniere (T3-11)
M. R. Rushman (T3-11)
K. A. Smith (N1-06)
T. M. Brun (N1-06)

In support of the 200 BP-5 Operable Unit Pump and Treat, several temporary groundwater sampling wells will be installed to obtain water samples.

The purpose of the well installation and sampling is locate the radiological and chemical contaminants that existed in well 699-50-53A. The ground water plume that exists below this well has moved because of lowering water levels in the unconfined aquifer.

Water samples may be shipped as non-radioactive from these wells provided that field instruments detect no activity above the Minimum Detectable for the instrument being used.

No additional laboratory analysis is required to support this as this well and several surrounding and upgradient wells have been heavily sampled in the past and all samples taken since the water levels starting dropping in these wells (circa 1990) has shown the activity present to be less than 200 pC/gm.

Department of Transportation regulations allow for shipment of such samples as non-radioactive provided the activity is less than 2,000 pC/gm. 200 pC/gm in a water sample equates to 200,000 Pc/L.

The contaminants of concern for well 699-50-53A are listed below with their highest activity measured since 1990.

Co^{60}	475 pC/L
Gross Alpha	9 pC/L
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Tritium	3950 pC/L
No^{95}	20 pC/L

Wells in the vicinity of 699-50-53A do not show any activity as high. Upgradient well also show activity less than 200 pC/gm (200,000 pC/L).

[11] From: Robert C (Clay) Smith at ~WHC321 7/21/94 9:23AM (510 bytes: 4 ln)
To: Loren E Rogers at ~WHC279, Wendy S Thompson at ~WHC279
cc: Jeffrey A Lerch
Subject: DSI to release samples without 222-S activity report
---------- Message Contents ----------

The DSI from S.K. De Mers concerning water samples taken in support of 200-BP-5 pump and treat from well 699-50-53A has been forwarded to IT. The DSI will work in lieu of total activity reports from 222-S.

072794A.WQ2

TENNELEC #2

SCREENING CALCULATION SPREADSHEET

all Cat I (R3) 7/27/94

Cust Code	Received Date		Screening Prep Date		Count Date	Mnts Cntd	BACKGROUND Alpha	Beta	Mnts
WHC	7-27-94		7-27		7-27	10	12	243	240

Customer ID	pH	Residue	Vol.	Sample	SMPLE CNT DATA			Net Sample Counts/Minute		DPM / Aliqout		uCi per Sample		2 Sigma Error uCi per Sample		pCi/(Gm or L)		Category	Aliquot to Cat I Gm or L	
WHC/LIQ	<2 Rcvd/Reiq	Wght mG	Anal. mG mL	Size Gm L	Hldr Num	Total Alpha	Counts Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Yes/No	Alpha	Beta
01 B09TD7		87.0	10	1.0	3	2	53	0 15	4.29	7.36E-01	1.01E+01	3.3E-05	4.5E-04	8.1E-06	1.5E-07	3.3E+01	4.5E+02	Yes	3.0E+02	2.2E+02
B0CJG7		3 4	10	2 5	6	6	18	0 55	0.79	1.96E+00	1.30E+00	2 2E-04	1.5E-04	2.1E-07	1 4E-07	8.8E+01	5.9E+01	Yes	1.1E+02	1.7E+03
B0CJB8		3 9	10	2 5	10	4	19	0 35	0 89	1 24E+00	1 64E+00	1 4E-04	1.9E-04	1 7E-07	2.0E-07	5.6E+01	7.4E+01	Yes	1.8E+02	1 4E+03
B0CJ94		5 0	10	2 5	11	4	21	0 35	1 09	1.24E+00	2.07E+00	1.4E-04	2.3E-04	1.7E-07	2.7E-07	5.6E+01	9.3E+01	Yes	1.8E+02	1.1E+03
B0CJC0		3 6	10	2 5	12	3	19	0 25	0 89	8 70E-01	1.71E+00	9.8E-05	1 9E-04	1 4E-07	2 9E-07	3 9E+01	7.7E+01	Yes	2.6E+02	1.3E+03
B0CJB6		8 2	10	2 5	13	1	27	0 05	1 69	1.11E-01	3 54E+00	1.2E-05	4 0E-04	8 2E-08	6 3E-06	5.0E+00	1.6E+02	Yes	2 0E+03	6.3E+02
B0BN84		2 3	10	1 0	16	71	1186	7 05	117 79	1 99E+01	2.43E+02	9 0E-04	1 1E-02	3 5E-07	8 2E-06	9 0E+02	1.1E+04	Yes	1.1E+01	9.1E+00
B0CJB9		9 4	10	0 5	18	4	21	0 35	1 09	1 31E+00	2 08E+00	2 9E-05	4 7E-05	3 5E-08	5 2E-06	5.9E+01	9.4E+01	Yes	1.7E+02	1.1E+03
B0CJG8		6 8	10	0 5	19	3	18	0 25	0 79	9 06E-01	1 50E+00	2 0E-05	3 4E-05	2 9E-06	4 6E-06	4 1E+01	6.8E+01	Yes	2 4E+02	1.5E+03
B0CJ91		5.7	10	0 5	20	1	11	0 05	0 09	1 82E-01	1.52E-01	4 1E-06	3 4E-06	1.2E-08	7 7E-09	8.2E+00	6.9E+00	Yes	1 2E+03	1.5E+04
B0CJB9		6.1	10	0 5	21	2	22	0 15	1 19	5.06E-01	2.41E+00	1.1E-05	5 4E-05	2 2E-08	1 6E-07	2.3E+01	1.1E+02	Yes	4 4E+02	9 2E+02
B0CJH0		3 0	10	0 5	22	6	22	0 55	1 19	1 94E+00	2.14E+00	4 4E-05	4 8E-05	4 2E-08	3 8E-08	8.7E+01	9.7E+01	Yes	1.1E+02	1 0E+03
B0CJB5		7 9	10	0 5	23	7	16	0 65	0 59	2 46E+00	8 23E-01	5 5E-05	1 9E-05	4 9E-08						

4 07503 Chem SDG W0151

4 07504 Rad

1 of 1

8-11-94 Priority

SAF-604008

*** GAMMA ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD

28-Jul-1994
Page 1

CUSTOMER: BHC

SAMPLE DELIVERY GROUP: WO151

MATRIX : WATER

BATCH NUMBER: 7-504

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	L0750418 L0750415				
1)	40750401 F0750401		BHC	B09TD7	

ACTIONS (Initial & Date)

1) INITIATED BB 1/28/94

2) PREP LAB RECEIVED ~~BB~~ 8/3/94

3) SAMPLE REMAINDER STORED ~~BB~~ 8/3/94

4) SEPARATION LAB RECEIVED N/A

5) COUNTING/MEASUREMENT LAB AS 8-8-9

6) DATA REVIEWED AND ANALYTICAL PREP STORED 11/8-10-94

No Special Isotopes requested for SAF6 94-008

8-1-94 E94-004
Priority

*** TC-99 ***

CHAIN-OF-CUSTODY BATCH ANALYSIS RECORD 28-Jul-1994
Page 1

CUSTOMER: BHC SAMPLE DELIVERY GROUP W0151

MATRIX : WATER BATCH NUMBER 7-504

	ITAS ID	DUP	ACCOUNT	CUSTOMER ID	COMMENTS
	L0750401N		L0750401B	W0750401	
	L0750402N		L0750401M	F0750401	
1)	W0750401		BHC	BOSTD7	

ACTIONS (Initial & Date)

1) INITIATED RB 7/28/94
2) PREP LAB RECEIVED 8/05/94 mm
3) SAMPLE REMAINDER STORED NA
4) SEPARATION LAB RECEIVED 8/05/94 mm
5) COUNTING/MEASUREMENT ARE 8/9/94
6) DATA REVIEWED AND ANALYTICAL PREP STORED GEE 8/11/94

W0750401 EQN 205 100.47 ± 1.2443

L0750401M EQN 202 100.56 ± 1.2454